CLAIMS

1. A programmable logic circuit control apparatus comprising:

a controller (4) which supplies a control signal to an external programmable logic circuit (1) having a function of changing a logic configuration in accordance with a
5 supplied control signal;

a module storage memory (2) which stores a plurality of modules each comprised of data defining a logic configuration of said programmable logic circuit (1); and

a module usage order designation memory (3) which has a plurality of ordered memory positions, each of the memory positions storing data for designating an address of
10 a memory position of said module storage memory (2) in which a module to be executed is stored or storing data for designating an address of another memory position of this module usage order designation memory (3),

wherein said controller (4) acquires data stored at a memory position in said module usage order designation memory (3),
15 determines which of an address of the memory position storing the module and an address of the another memory position is designated by acquired data,

when having determined that said acquired data designates an address of the module, acquires said module stored in a memory position indicated by said address from said module storage memory (2), generates a control signal which controls said
20 programmable logic circuit (1) to take a logic configuration defined by said module and supplies generated control signal to said programmable logic circuit (1), and

when having determined that said acquired data designates another memory position, acquires data stored at said another memory position from said module usage order designation memory (3).

25 2. The programmable logic circuit control apparatus according to claim 1, wherein when data stored at a memory position in said module usage order designation memory (3)

designates another memory position in said module usage order designation memory (3),
said data includes condition definition data designating a condition to start a process of
acquiring data stored at said another memory position, and

said controller (4) determines whether a condition designated by said condition

5   definition data included in said acquired data is fulfilled or not when having determined that
said acquired data designates another memory position,

acquires data stored at said another memory position of said module usage order
designation memory (3) when having determined said condition is fulfilled, and

aborts acquisition of data at said another memory position when having determined

10 that said condition is not fulfilled.

3. The programmable logic circuit control apparatus according to claim 2, wherein
said condition designated by said condition definition data relates to a value given by a
signal which is generated at a predetermined node of said programmable logic circuit (1),
and

15   when having determined that data stored at a memory position in said module usage
order designation memory (3) designates another memory position, said controller (4)
acquires said signal from said node of said programmable logic circuit (1), and determines
based on said value given by said acquired signal whether that condition which is
designated by said condition definition data included in said data acquired from said

20 module usage order designation memory (3) is fulfilled or not.

4. The programmable logic circuit control apparatus according to claim 1, wherein
data stored at a memory position in said module usage order designation memory (3)
includes identification data for identifying which one of an address of the memory position
storing a module and an address of another memory position is designated by said stored

25 data,

said controller (4) determines based on said identification data included in said data

acquired from said module usage order designation memory (3) which of an address of the memory position storing the module and an address of the another memory position is designated.

     5. A programmable logic circuit control apparatus that acquires a module comprised of data defining a logic configuration of an external programmable logic circuit (1) having a function of changing a logic configuration in accordance with a supplied control signal from a module storage memory (2) which stores a plurality of modules, generates a control signal which controls said programmable logic circuit (1) to take a logic configuration defined by said acquired module and supplies generated control signal to said programmable logic circuit (1), and that comprises:

     means which acquires data stored at a memory position in an external module usage order designation memory (3) which has a plurality of ordered memory positions, each of the memory position storing data for designating an address of a memory position of said module storage memory (2) in which a module to be executed is stored or storing data for designating an address of another memory position of this module usage order designation memory (3), from said module usage order designation memory (3);

     means which determines which of an address of the memory position storing the module and an address of the another memory position is designated by acquired data;

     means which, when it is determined that said acquired data designates an address of the module, acquires said module stored in a memory position indicated by said address from said module storage memory (2), and changes said logic configuration of said programmable logic circuit (1) so that said programmable logic circuit (1) takes a logic configuration defined by said module; and

     means which, when it is determined that said acquired data designates another memory position, acquires data stored at said another memory position from said module usage order designation memory (3).

6. A programmable logic circuit control method which supplies a control signal to an external programmable logic circuit (1) having a function of changing a logic configuration in accordance with said supplied control signal, and comprises the steps of:

storing a plurality of modules each comprised of data defining a logic configuration
5 of said programmable logic circuit (1);

storing data for designating an address of a memory position storing a module or an address of another memory position at each of a plurality of ordered memory positions;

acquiring data stored at each of said memory positions;

determining which of an address of the memory position storing the module and an
10 address of the another memory position is designated by the acquired data;

when it is determined that said acquired data designates an address of a memory position storing a module, acquiring said module stored in the memory position indicated by said address, generating a control signal which controls said programmable logic circuit (1) to take a logic configuration defined by said module and supplying said control signal to
15 said programmable logic circuit (1); and

when it is determined that said acquired data designates an address of another memory position, acquiring data stored at said another memory position.

7. A programmable logic circuit control method that acquires a module comprised of data defining a logic configuration of an external programmable logic circuit (1) having a
20 function of changing a logic configuration in accordance with a supplied control signal from a module storage memory (2) which stores a plurality of modules, generates a control signal which controls said programmable logic circuit (1) to take a logic configuration defined by said acquired module and supplies said control signal to said programmable logic circuit (1), and that comprises the steps of:

25 acquiring data stored at a memory position in an external module usage order designation memory (3) which has a plurality of ordered memory positions, each of the

memory positions storing data for designating an address of a memory position of said module storage memory (2) in which a module to be executed is stored or storing data for designating an address of another memory position of this module usage order designation memory (3);

5   determining which of an address of the memory position storing the module and an address of the another memory position is designated by the acquired data;

when it is determined that said acquired data designates an address of a memory position storing a module, acquiring said module stored in the memory position indicated by said address from said module storage memory (2), and changing said logic

10 configuration of said programmable logic circuit (1) so that said programmable logic circuit (1) takes a logic configuration defined by said module; and

when it is determined that said acquired data designates another memory position, acquiring data stored at said another memory position from said module usage order designation memory (3).

15   8. A program for allowing a computer to function as:

a controller (4) which supplies a control signal to an external programmable logic circuit (1) having a function of changing a logic configuration in accordance with said supplied control signal;

a module storage memory (2) which stores a plurality of modules each comprised

20 of data defining a logic configuration of said programmable logic circuit (1); and

a module usage order designation memory (3) which has a plurality of ordered memory positions, each of the memory positions storing data for designating an address of a memory position of said module storage memory (2) in which a module to be executed is stored or storing data for designating an address of another memory position of the module

25 usage order designation memory (3),

wherein said controller (4) acquires data stored at a memory position in said module

usage order designation memory (3),

determines which of an address of the memory position storing the module and an address of the another memory position is designated by the acquired data,

when having determined that said acquired data designates an address of a module,

5   acquires said module stored in a memory position indicated by said address from said module storage memory (2), generates a control signal which controls said programmable logic circuit (1) to take a logic configuration defined by said module and supplies the generated control signal to said programmable logic circuit (1), and

when having determined that said acquired data designates another memory

10   position, acquires data stored at said another memory position from said module usage order designation memory (3).

9. A program for allowing a computer to function as a programmable logic circuit control apparatus that acquires a module comprised of data defining a logic configuration of an external programmable logic circuit (1) having a function of changing a logic

15   configuration in accordance with a supplied control signal from a module storage memory (2) which stores a plurality of modules, generates a control signal which controls said programmable logic circuit (1) to take a logic configuration defined by said acquired module and supplies generated control signal to said programmable logic circuit (1), and further allowing said computer to perform the functions of:

20   acquiring data stored at a memory position in an external module usage order designation memory (3) which has a plurality of ordered memory positions, each of the memory positions storing data for designating an address of a memory position of said module storage memory (2) in which a module to be executed is stored or storing data for another memory position of this module usage order designation memory (3);

25   determining which of an address of the memory position storing the module and an address of the another memory position is designated by acquired data;

   when it is determined that said acquired data designates an address of a module,
acquiring said module stored in a memory position indicated by said address from said
module storage memory (2), and changing said logic configuration of said programmable
logic circuit (1) so that said programmable logic circuit (1) takes a logic configuration

5 defined by said module; and

   when it is determined that said acquired data designates another memory position,
acquiring data stored at said another memory position from said module usage order
designation memory (3).